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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 2

| *Complete If Known* | |
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| Application Number | 10/678,723 |
| Filing Date | October 2, 2003 |
| First Named Inventor | Eduardo Marban |
| Art Unit | 1632 |
| Examiner Name | ~~TBR~~ Montana, DA |
| Attorney Docket Number | 001107.00459 |

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## U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No.[1] | Document Number: Number - Kind Code[2] (*if known*) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|---|---|---|---|---|---|
| DM | | US-5,436,128 | 07-25-1995 | Harpold et al | |
| | | US- 5,824,550 | 10-20-1998 | Hruska et al | |
| | | US- 5,965,396 | 10-12-1999 | Pan et al | |
| | | US- 6,156,726 | 12-05-2000 | Newcomb et al | |
| | | US- 6,365,337 | 04-02-2002 | Letts et al | |
| | | US- 2002/0009772 A1 | 01-24-2002 | Snutch | |
| | | US- 2002/0094326 A1 | 07-18-2002 | Donahue et al | |
| | | US- 2002/0155101 A1 | 10-24-2002 | Donahue et al | |
| | | US- 2003/0118988 A1 | 06-26-2003 | Kandel et al | |
| | | US- 6,605,274 B1 | 08-12-2003 | Dillmann et al | |
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## FOREIGN PATENT DOCUMENTS

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| Examiner Signature | | Date Considered | 11/9/06 |
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Sheet 2 of 2

| *Complete if Known* | |
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| Application Number | 10/678,723 |
| Filing Date | October 2, 2003 |
| First Named Inventor | Eduardo Marban |
| Group Art Unit | 1632 |
| Examiner Name | ~~To Be Assigned~~ Martinez, DA |
| Attorney Docket Number | 001107.00459 |

## OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

| Examiner Initials * | Cite No.[1] | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T[2] |
|---|---|---|---|
| DM | | MARBAN, "Cardiac Channelopathies", Nature, January 10, 2002, pp. 213-218, Vol. 415. | |
| | | MAGUIRE et al., "Gem: An Induced, Immediate Early Protein Belonging to the Ras Family", Science, July 8, 1994, Vol. 265. | |
| | | LEONE et al., "The Gem GTP-binding Protein Promotes Morphological Differentiation in Neuroblastoma", Oncogene, pp. 3217-3225, Vol. 20. | |
| | | NEYROUD et al., "Gene Delivery to Cardiac Muscle", Methods in Enzymology, pp. 323-334, Vol. 346. | |
| | | MARBAN et al., "Gene Therapy for Cardiac Arrhythmias", Cold Spring Harbor Symposia on Quantitative Biology, 2002, Vol. LXVII. | |
| | | MIAKE et al., "Biological Pacemaker Created by Gene Transfer", Nature, September 12, 2002, pp. 132-133, Vol. 419. | |
| | | DOLPHIN, "Mechanisms of Modulaton of Voltage-Dependent Calcium Channels by G Proteins", Journal of Physiology, 1998, pp. 3-11, Vol. 506.1. | |
| | | ERTEL, "Nomenclature of Voltage-Gated Calcium Channels", Neuron, March, 2000, pp. 533-535, Vol. 25. | |
| | | BEGULN et al., "Regulation of $Ca^{2+}$ Channel Expression at the Cell Surface by the Small G-protein kir/Gem", Nature, June 7, 2001, pp. 701-706, Vol. 411. | |
| | | CATTERALL, "Structure and Regulation of Voltage-Gated $Ca^{2+}$ Channels", Annual Rev. Cell Dev. Biology, 2000, pp. 521-55, Vol. 16. | |
| V | | WALKER et al., "Subunit Interaction Sites in Voltage-Dependent $Ca^{2+}$ Channels: Role in Channel Function", Elsevier Science, Ltd.; 1998, pp. 148-154, Vol. 21. | |
| V | | TRIMMER, "Unexpected Cross Talk: Small GTPase Regulation of Calcium Channel Trafficking", Science's Stke, January 8, 2002, pp. 1-3. | |

| Examiner Signature | | Date Considered | 11/9/06 |
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| *Filing Date* | October 2, 2003 |
| *First Named Inventor* | Eduardo Marban |
| *Art Unit* | 1632 |
| *Examiner Name* | TBA Montanari, DA |
| *Attorney Docket Number* | 001107.00459 |

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|---|---|---|---|---|---|
| DM | | US- 6,214,620 | 04/10/2001 | Johns et al | |
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Sheet 1 of 1

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| Application Number | 10/678,723 |
| Filing Date | October 2, 2003 |
| First Named Inventor | Eduardo MARBAN |
| Art Unit | ~~TBA~~ 1632 |
| Examiner Name | ~~TBA~~ Montanari |
| Attorney Docket Number | 001107.00459 |

**NON PATENT LITERATURE DOCUMENTS**

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|---|---|---|---|
| DM | | ARESTA, S. et al., "A Novel Rho GTPase-activating-protein interacts with Gem, a member of the Ras superfamily of GTPases," *Biochem. J.*, 2002, pp. 57-65, Vol. 367 | |
| DM | | MUTH, James N. et al.., "Use of transgenic mice to study voltage-dependent $Ca^{2+}$ channels," *Trends in Pharmacological Sciences*, October 2001, pp. 526-532, Vol. 22, No. 10 | |
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|---|---|---|---|
| DM | | DUNLAP, K. et al., "Exocytotic $Ca^{2+}$ Channels in Mammalian Central Neurons," *Trends Neurosci.*," 1995, Vol. 18, p. 89. | |
| DM | | FISHER, R. et al.., "Calmodulin Binds to and Inhibits GTP Binding of the Ras-like GTPase Kir/Gem," *Journal Biology Chemistry*, 1996, Vol. 271, pp. 2506-2507. | |
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